WOODRUFF & EDWARDS
ILD 005071410
Elgin, Kane County, IL
IEPA 0894380001
SF / HRS

CERCLA
Site Inspection Prioritization Report

Illinois Environmental Protection Agency

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SECTION I -- SITE BACKGROUND

1.1 INTRODUCTION

The Woodruff & Edwards site was added to the Comprehensive Environmental Response, Compensation and Liability Act Inventory System (CERCLIS) on December 1, 1983. A CERCLA Preliminary Assessment(PA) was conducted August 5, 1986 by Illinois EPA personnel and a Screening Site Inspection(SSI) without sampling was conducted on April 2, 1987 by the U.S. EPA's Field Investigation Team, Ecology and Environment, Incorporated.

This Site Inspection Prioritization(SIP) was conducted to determine current site conditions in order to fill in missing data and to update the status of the outstanding Screening Site Inspection performed before the implementation of the revised Hazardous Ranking System(HRS). The SIP examined and evaluated the threats posed to human health and the environment by the site and provided sufficient information to decide the future course of action.

This report is organized into four sections, including this one. This section describes the site and gives a historical overview of site operations as well as current and previous regulatory information. Section two provides information about the SIP activities, including site reconnaissance, interviews, sampling activities and sampling results. Section three provides information about the sources of contamination and section four provides information about the four potential migration and exposure pathways (groundwater, surface water, air and soil exposure).

non-ferrous castings, patterns and ready to assemble castings. The foundry's waste materials (core sands, foundry sands and fly ash) were disposed of at their landfill.

In 1981 Woodruff & Edwards deeded the landfill parcel to the City of Elgin. After this transaction, the Illinois EPA would not allow Woodruff & Edwards to continue disposing of their wastes on City of Elgin property without the required Resource Conservation and Recovery Act (RCRA) permits for landfill operations. Instead of proceeding through the permitting process, the property was returned to Woodruff & Edwards through a Quitclaim Deed. The property title was later returned to the City of Elgin after the foundry closed in 1989.

An Environmental Audit on the foundry parcel was prepared by Thermo Analytical, Incorporated for the City of Elgin in order to investigate the environmental threats and the steps required to remove the old foundry structure and develop a city park in its place. The foundry structure was removed in accordance with federal, state and local regulations and ordinances. A portion of the south end of the foundry area was then purchased by Van Den Bergh Foods. The rest of the foundry area was covered with clean fill, sodded, planted and landscaped as a city park.

The landfill area is situated along the Fox River north of the foundry parcel. The landfill is actually an undeveloped portion of the Fox River floodplain. The foundry wastes were dumped onto the floodplain, and over time created two distinct piles of waste. The area was

When the City of Elgin acquired the site, they became subject to the RCRA landfill regulations. The city decided to return the property to Woodruff & Edwards instead of proceeding with the required RCRA landfill policies. A Permit Variation was granted by the Illinois EPA in 1974 allowing Woodruff & Edwards to dispose of their foundry wastes on their own landfill property. Given the nature of the industry, Woodruff & Edwards was not subject to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), the Atomic Energy Act (AEA) or the Uranium Tailings Radiation Control Act (UMTRCA).

SECTION II -- SIP ACTIVITIES

2.1 RECONNAISSANCE ACTIVITIES

Site reconnaissance of the Woodruff & Edwards property was conducted by members of the Illinois EPA Site Assessment Unit (SAU) on February 15, 1995. The old foundry was removed and the Van Den Bergh Foods portion is now a building and paved parking facility and the City of Elgin's portion is a park.

Because the foundry structure was removed and the foundry parcel was redeveloped in accordance with federal, state and local regulations and ordinances, the SIP focused on the landfill parcel. Access to the landfill parcel was obtained through the original access road off of State Street. The parcel starts immediately east of the railroad and extends southward to the Kimble Street bridge and northward to the sewage treatment facility. The east boundary is the Fox River.

There are two large waste piles on the landfill. Both waste piles extend from the train tracks

portion of the site. He stated that the City of Elgin did not have any current plans for the landfill property.

Deputy Police Chief Jack Darr has indicated that homeless people have utilized the landfill area for their dwellings for many years. They move into the area in Spring and leave when it gets too cold. He has recommended that they get blood tests for metals, but doubts that any would bother.

2.3 SAMPLING ACTIVITIES

CERCLA Site Inspection Prioritization sampling activities were conducted by Illinois EPA SAU personnel on May 17 & 18, 1995. The samples were taken with a trowel or split spoon auger, in accordance with IEPA sampling practices. Six soil, five sediment and one special waste sample were taken from various locations on the landfill portion of the site. The special waste sample was taken to identify the contaminants within the specific blocks of waste material. The soil samples were taken to identify the extent of the contamination and to characterize the wastes. The sediment samples were taken to determine if any contaminants had migrated to an adjacent waterway. Figure 3 identifies the site features and sample locations. Table 1 describes the samples. There were no previous CERCLA sampling events.

2.4 SAMPLE RESULTS

"Key Samples" are analytical data obtained during the SIP that indicate observed contamination and/or meet the Hazardous Ranking System (HRS) criteria of an observed release. Table 1 identifies and describes the samples. Tables 2a and 2b identify the key samples and their contaminants. Appendix B contains the Target Compound List and

occupying approximately .7 acres in area. Though this is the newest pile, it appears to be the most stable. Vegetation is prevalent except for a few small areas that are barren. There was no evidence of exposed bags of fly ash. Volatile and inorganic contaminants have been identified within the barren areas on this pile.

SECTION IV -- MIGRATION PATHWAYS

4.1 SURFACE WATER PATHWAY

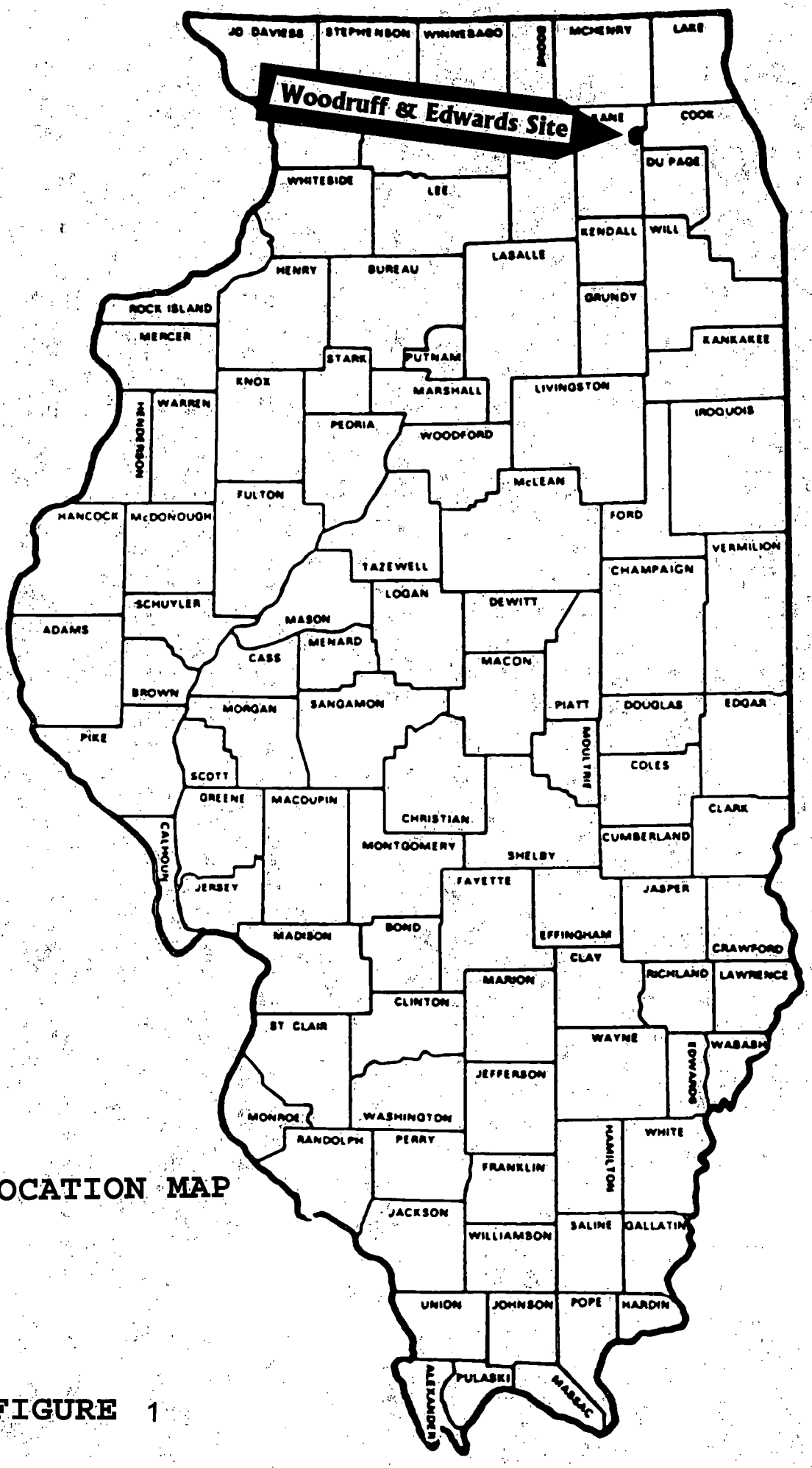
The surface water pathway consists of the two drainageways and the Fox River. The Fox River creates the 3200 foot (.6 mile) eastern boundary of the site. It is unknown if the drainageways are perennial as both are less than 250 feet in length. The southern drainageway appears to rely entirely on site percolation for its water source. The second which separates the north and south piles, acquires some of its water from a stormwater discharge pipe at the drainageway head.

The surface water Target Distance Limit (TDL) consists exclusively of the Fox River starting at the site flowing southward and ending approximately .6 miles south of the Community of Geneva (appendix B, 15 mile map). There are no known surface water intakes along the 15 mile TDL. The City of Elgin obtains 90% of its drinking water from surface water intakes located more than one mile upstream from the site. The Fox River is an established fishery. Several designated environmental areas and wetlands exist down stream from the site. The closest is Blackhawk Forest Preserve approximately six miles downstream. The river distance along with the dilution of the Fox River removes these areas from further consideration.

Street lies a large residential area. There are no schools, daycare facilities adjacent to the site. There are no on site workers. However, several human dwellings were observed on top of the southern waste pile. The Elgin Police Department frequently evicts the intruders from the site. Several designated State Natural Areas, Preserves or Parks exist within the four mile limit. However, none exist adjacent to the site. The contaminated soils are most likely to be carried off site as part of the surface water runoff. The soil exposure pathway is a threat to the burrowing animals and the indigents who utilize the site for habitation. Soil samples X102 and X105 taken from the waste piles show contaminants in both the volatile and inorganic parameters that may threaten human health or the environment.

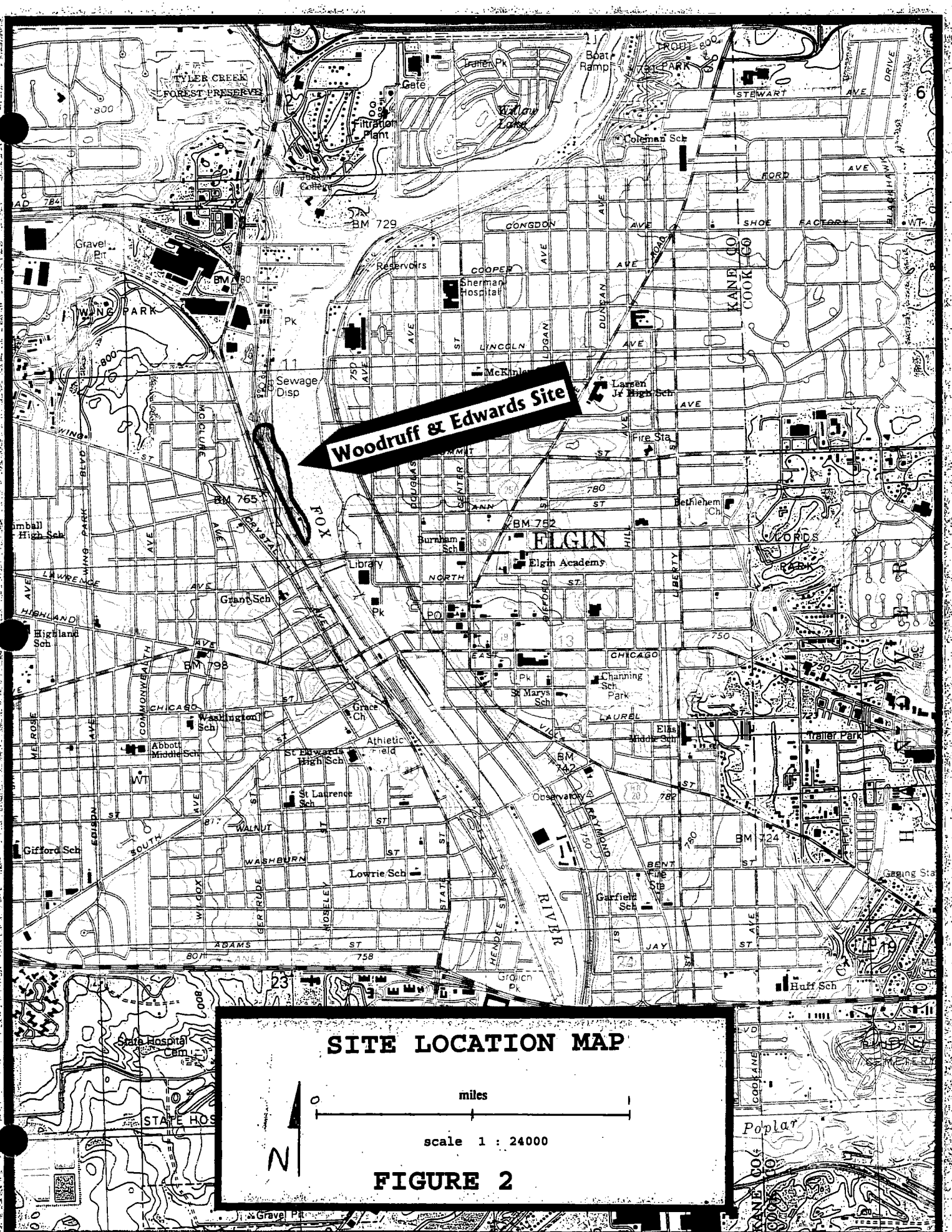
4.3 GROUNDWATER PATHWAY

The geology of the Elgin area consists of bedrock that is generally greater than 60 feet in depth with areas of exposed limestone along the Fox River. Various forms of glacial drift overlies the bedrock. The soils are silt and sand loams overlying the glacial drift. Therefore, the hydrologic properties around the landfill vary with the type of underlying glacial drift materials. Local groundwater around the landfill flows south and east into the Fox River. The City of Elgin obtains 90% of its drinking water from surface water intakes more than one mile upstream from the site. The remaining 10% of the water is obtained from two clusters of six and five wells respectively in the St. Simon sandstone deep bedrock aquifer. The first cluster of six wells are located on the east side of the Fox River and more than two miles from the site. The second cluster is located over two miles west and slightly north of the site. All 11 wells are over 1200 feet deep. No known monitoring wells exist in the



STATE LOCATION MAP

FIGURE 1


Woodruff & Edwards Site
TYLER CREEK FOREST PRESERVE
Gate
Filtration Plant
Willow Lake
Boat Ramp
TROUT PARK
Coleman Sch
Gravel Pit
BM 729
Reservoirs
Sherman Hospital
WING PARK
Pk
Sewage Disp
McKinley
Larsen Jr High Sch
Fire Sta
BM 765
FOX
BM 752
ELGIN
Burnham Sch
Elgin Academy
Library
Bethlehem Ch
Grant Sch
Highland Sch
BM 798
Channing Sch Park
St Marys Sch
Grace Ch
Washington Sch
Abbott Middle Sch
St Edwards High Sch
Athletic Field
St Laurence Sch
Elgin Middle Sch
Trailer Park
BM 742
Observatory
BM 724
Gifford Sch
Lowrie Sch
Garfield Sch
RIVER
Grotton Pk
Huff Sch
State Hospital Cem
Grave Pit
Poplar
SITE LOCATION MAP
0
miles
scale 1 : 24000
N
FIGURE 2

WOODRUFF & EDWARDS

SITE LAYOUT
&
SAMPLE LOCATION MAP

LEGEND
drawing not to scale

SITE BOUNDARIES

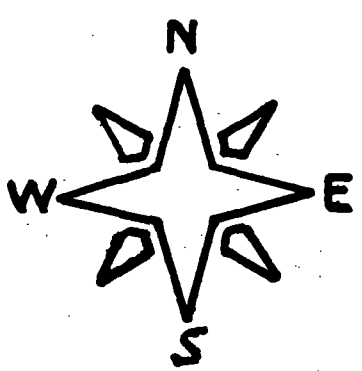
WASTE PILES

DRAINAGEWAYS

SOIL SAMPLES

SEDIMENT SAMPLES

SPECIAL WASTE SAMPLES



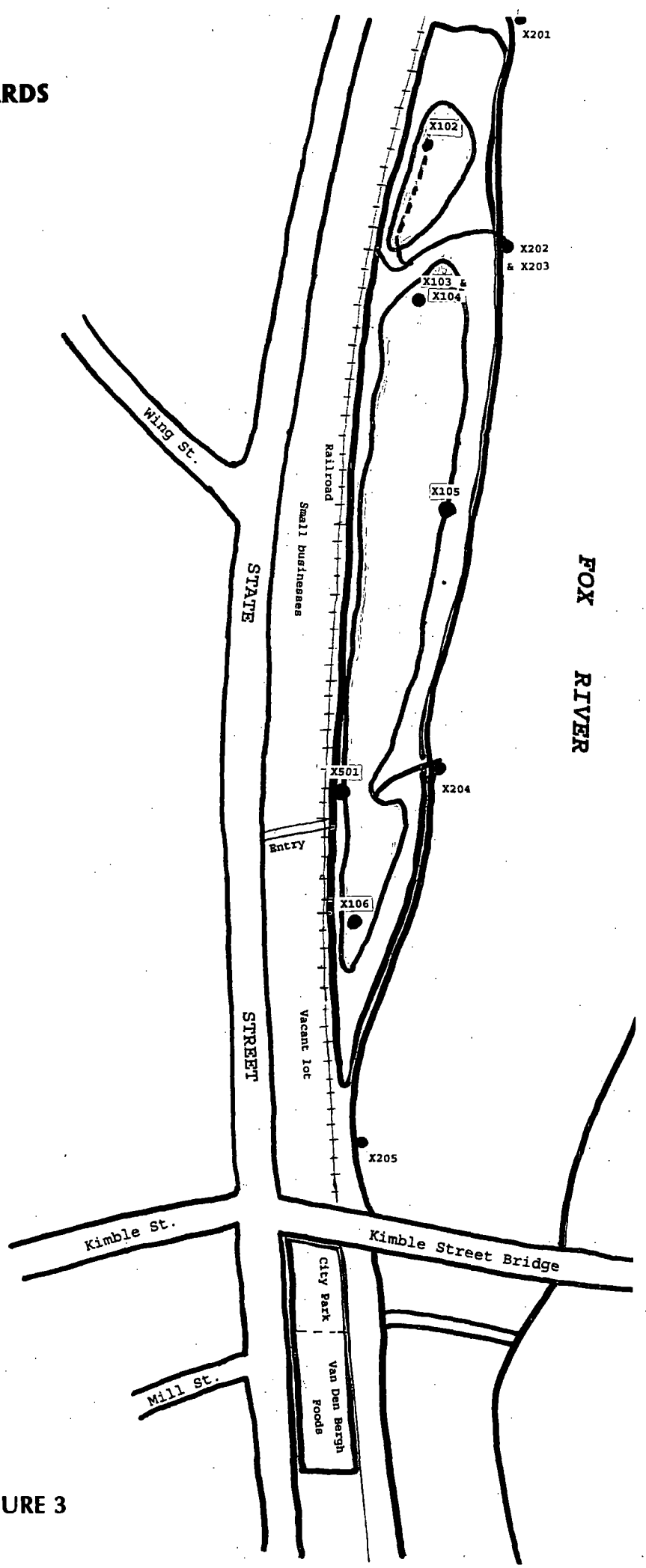


FIGURE 3

SAMPLE	DEPTH	APPEARANCE	LOCATION	JUSTIFICATION
X101	0" - 6"	Brown loam	Voyageur's Landing Forest Preserve 13ft N. of entrance Rd. & 44ft E. of flagpole	Background sample
X102	0" - 6"	Black/brown/red sandy grit	Taken at northern most portion of northern-most pile at top edge of bluff	Characterize north waste pile
X103 & X104	0" - 8"	Silty sand	Top of bluff of northmost portion of South waste pile in barren area	Characterize South Waste Pile Duplicate samples
X105	0" - 8"	Black gritty sand w/ lenses of red sands below 2"	1/2way down South pile on E. bluff 15ft up bluff face in barren area	Characterize contaminated soil zone
X106	0" - 6"	Brown sandy loam w/ rocks	approx 400ft N. of Kimble St bridge approx 60ft E. of railroad	Characterize southern portion - South pile
X501	surface	Black gritty blocks	23ft E. of RR signal box 9ft N. of RR signal box	Special characteristic sample to determine constituents of landfill materials
X201	0" - 8" 12" below water	Dark grey silty clay lots organic plant material	63ft S. of outfall at Municipal Tmt facility	Fox River Background
X202 & X203	0" - 8" 6" below water	Black sandy silt organic rich	Taken at confluence of N. drainage ditch and Fox River	Collected to identify if contaminants are migrating into Fox River Duplicate samples
X204	0" - 8" 6" below water	Black silty sand	Taken at confluence of S. drainage ditch and Fox River	Collected to identify if contaminants are migrating to Fox River
X205	8" - 10" 10" below water	Grey/black clayey silt	approx 300ft N. of Kimble St. bridge 45ft E. of Railroad	Taken to determine if contaminants are migrating offsite

SAMPLE KEY

X1.. Soil
X2.. Sediment
X5.. Special Waste Characteristic

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TABLE 1

PARAMETER	SOIL SAMPLING POINTS background X 101	X 102	X 103	X 104	X 105	X 106	special waste X 501	SOIL BENCHMARKS *RALs*	*SCDMs*
VOLATILES ppb									
Methylene Chloride	25.00	180.00	180.00	260.00 D	178.00	52.00	580.00 D		78000
Acetone	63.00	84.00			180.00		100.00 D		58000000
1,1,1-Trichloroethane	13.00 U					25.00			
INORGANICS ppm									
Arsenic	3.50	16.90						8 - 200	32
Chromium	10.60	196.00			116.00			200 - 400	
Copper	10.80	184.00			106.00			5000	
Magnesium	3730.00				18500.00				
Nickel	8.10 B	111.00						1600	
Cyanide	0.64 U				12.80			12 - 350	

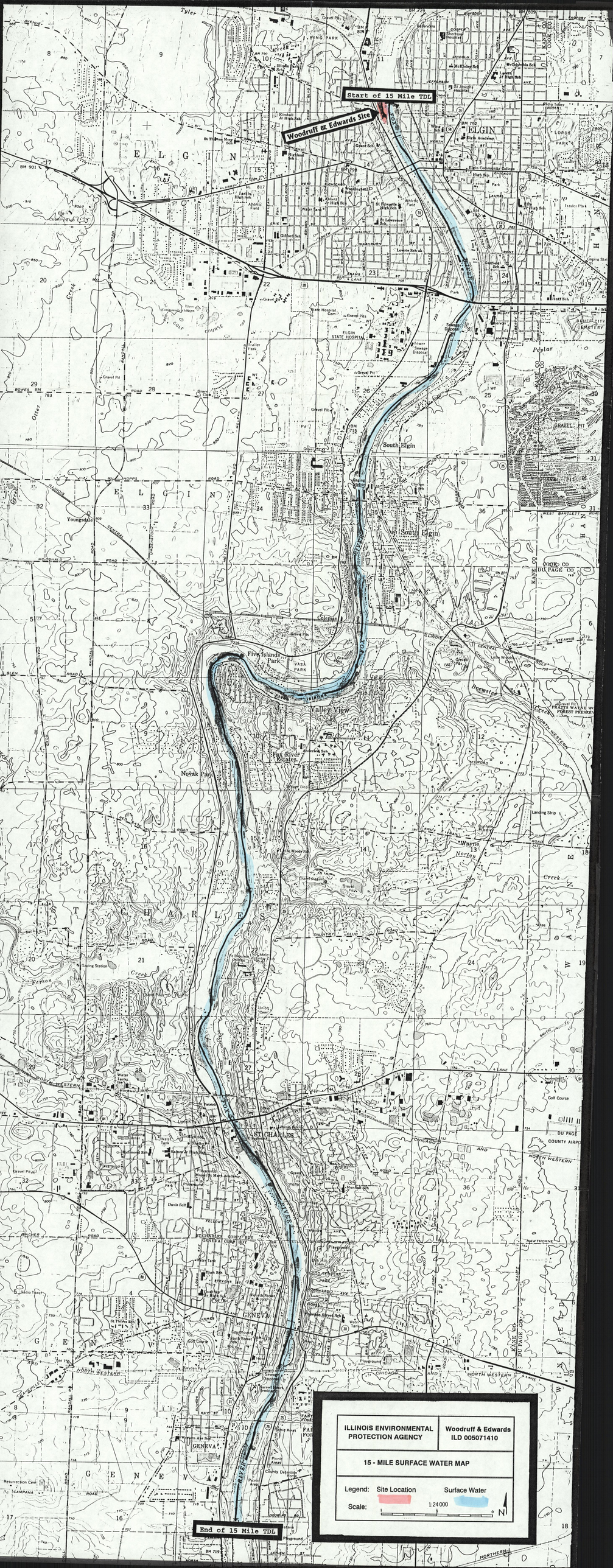
TABLE 2a

PARAMETERS	SAMPLING POINTS background X 201		X 202		X 203		X 204		X 205		BENCHMARKS RALs soil / sediment	ONTARIO SEDIMENT STANDARDS Low Effect Level	Severe Effect Level
VOLATILES ppb													
Acetone	13.00	U					42.00						
SEMIVOLATILES ppb													
Phenanthrene	420.00	U			630.00		3300.00				500000 - 1000000		
Anthracene	420.00	U					460.00	J			500000 - 1000000		
Fluoranthene	420.00	U	660.00		1400.00		3900.00				500000 - 1000000		
Pyrene	420.00	U	530.00		1100.00		3200.00				500000 - 1000000		
Benzo(a)anthracene	420.00	U			640.00		1800.00				500000 - 1000000		
Chrysene	420.00	U			630.00	J	1900.00	J	0.00		500000 - 1000000		
bis(2-Ethylhexyl)phthalate	420.00	U					1100.00				12000000		
Benzo(b)fluoranthene	420.00	U			700.00		1600.00						
Benzo(a)pyrene	420.00	U			630.00		1200.00				500000 - 1000000		
PESTICIDES ppb													
4,4'-DDE	4.20	U					19.00				500000	5	19000
Endrin	1.80	J					9.00	P			230000	3	130000
4,4'-DDD	3.00	JP					60.00	P			710000	8	6000
4,4'-DDT	1.20	J	13.00	P			18.00	P			390000	8	71000
Methoxychlor (Mariate)	3.90	J					15.00	JP					
alpha-Chlorodane	4.50	P					24.00	P			47000	7	6000
gamma-Chlorodane	4.70						17.00	P			47000	7	6000
Aroclor-1254	28.00	J	87.00	P			300.00				22000	60	34000
Aroclor-1260	21.00	JP					590.00				22000	5	24000
INORGANICS ppm													
Cyanide	0.61	U					1.20				12 - 350		

TABLE 2b

APPENDIX A

15 Mile Surface Water Map


Start of 15 Mile TDL
Woodruff & Edwards Site
End of 15 Mile TDL
ELGIN
ELGIN STATE HOSPITAL
South Elgin
Five Islands Park
Valley View
Fox River Estates
Novak Park
Wayne
Norton
ST CHARLES
GENEVA
Fox River
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Woodruff & Edwards
ILD 005071410
15 - MILE SURFACE WATER MAP
Legend: Site Location
Surface Water
Scale: 1:24 000
N

APPENDIX B

Target Compound List

TARGET COMPOUND LIST

Volatile Target Compounds

Chloromethane	1,2-Dichloropropane
Bromomethane	cis-1,3-Dichloropropene
Vinyl Chlorde	Trichloroethene
Chloroethane	Dibromochloromethane
Methylene Chloride	1,1,2-Trichloroethane
Acetone	Benzene
Carbon Disulfide	trans-1,3-Dichloropropene
1,1-Dichloroethene	Bromoform
1,1-Dichloroethane	4-Methyl-2-pentanone
1,2-Dichloroehtene (total)	2-Hexanone
Chloroform	Tetrachloroethene
1,2-Dichloroethane	1,1,2,2-Tetrachloroethane
2-Butanone	Toluene
1,1,1-Trichloroethane	Chlorobenzene
Carbon Tetrachloride	Ethylbenzene
Vinyl Acetate	Styrene
Bromodichloromethane	Xylenes (total)

Base/Neutral Target Compounds

Hexachloroethane	2,4-Dinitrotoluene
bis(2-Chloroethyl) Ether	Diethylphthalate
Benzyl Alcohol	N-Nitrosodiphenylamine
bis (2-Chloroisopropyl) Ether	Hexachlorobenzene
N-Nitroso-Di-n-Propylamine	Phenanthrene
Nitrobenzene	4-Bromophenyl-phenylether
Hexachlorobutadiene	Anthracene

Pesticide/PCB Target Compounds

alpha-BHC	Endrin Ketone
beta-BHC	Endosulfan Sulfate
delta-BHC	Methoxychlor
gamma-BHC (Lindane)	alpha-Chlordane
Heptachlor	gamma-Chlordane
Aldrin	Toxaphene
Heptachlor epoxide	Aroclor-1016
Endosulfan I	Aroclor-1221
4,4'-DDE	Aroclor-1232
Dieldrin	Aroclor-1242
Endrin	Aroclor-1248
4,4'-DDD	Aroclor-1254
Endosulfan II	Aroclor-1260
4,4'-DDT	

Inorganic Target Compounds

Aluminum	Manganese
Antimony	Mercury
Arsenic	Nickel
Barium	Potassium
Beryllium	Selenium
Cadmium	Silver
Calcium	Sodium
Chromium	Thallium
Cobolt	Vanadium
Copper	Zinc
Iron	Cyanide
Lead	Sulfide
Magnesium	

N	Not used	Spiked sample (a QC parameter not met).
S	Not used.	The reported value was determined by the Method of Standard Additions (MSA).
W	Not used.	Post digestion spike for Furnace AA analysis (a QC parameter) is out of control limits of 85% to 115% recovery, while sample absorbance is less than 50% of spike absorbance.
*	Not used.	Duplicate analysis (a QC parameter not within control limits).
+	Not used.	Correlation coefficient for MSA (a QC parameter) is less than 0.995.
P	Not used.	Method qualifier indicates analysis by ICP (Inductively Coupled Plasma) Spectroscopy.
CV	Not used.	Method qualifier indicates analysis by Cold Vapor AA.
AV	Not used.	Method qualifier indicates analysis by Automated Cold Vapor AA.
AS	Not used.	Method qualifier indicates analysis by Semi-Automated Cold Spectrophotometry.
T	Not used.	Method qualifier indicates Titrimetric analysis.
NR	The analyte was not required to be analyzed.	The analyte was not required to be analyzed.
R	Rejected data. The QC parameters indicate that the data is not usable for any purpose.	Rejected data. The QC parameters indicate that the data is not usable for any purpose.